USCMS Engineer Status Report for May 2004

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1   Work Performed This Month

*** DAR development and support

Created CMKIN, ORCA, COBRA distributions for production (based on refdb request), got more involed into RefDB business related to preparing distributions and coordinating the contents of the DARballs (versions, executables etc).

Started looking into RefDB part of the RefDB2DAR interface: provided a fix needed to compile cmkin executables through refdbdar. Got necessary permissions to register new executables in the RefDB, tested corresponding procedures. Suggested to improve the request procedure by moving the request part of refdbdar functionality from RefDB into DAR.

Implemented changes in CMKIN packager requested earlier by Marco Corvo, related to handling the LD_LIBRARY_PATH variable.

Other DAR developments: tested the principle implementation for exposing DAR metadata (prior installing the darball).

Looked into documentation about d0sandbox tool developed by Dave Evans etal for packaging D0 executables for distributon over GRID, to see if there are areas for joined development, or code re-use (Dave is now working for CMS). The implementation concept use in D0 is ortogonal

Reviewed and prepared the final version of "Software Packaging with DAR" paper for publication in NIMA.

*** Misc

Investigate and debug software portability problems in MySQL used by POOL, detected by Jerry when using mysql-based POOL catalog. The bug was a complicated combination of MySQL features, the was the mySQL was configured and build at CERN, and the fact of afs client running on

the node (this is a typical case at FNAL). The problem was discussed with the POOL developers and LCG librarians through Savannah bug reporting system, solution was found and tested at Fermilab. Should be fixed in next version of POOL.

*** Local CMS software installations at Fermilab

Exercised the procedure of installing CMS software from rpms, to achieve an earlier set goal: to make software available locally at Fermilab within 24 hours after it has been released at CERN.

Familiarized myself with the scripts used to create rpms and tarballs for packaging for CMS install, and used these scripts to create missing distributions. The installation still involves lots of manual operations and expertize.

Updated CMS external tools according to configuration version #CMS_90. Installed COBRA_7_8_2, ORCA_8_1_2, OSCAR_3_2_2.

Updated CMS external tools according to configuration version #CMS_92. Installed and configured COBRA_7_8_4, ORCA_8_1_3.

Added new feautures to the check_config_paths script, deveoped to check the local configuration:

- now checks AFS access control list and reports all cases, when the read access is restricted

- now detects any variables set to empty values

Practicing in ORCA and OSCAR visualization of locally generated data using IGUANACMS_1_6_1 installe locally at FNAL.

*** LPC working group

Participated in LPC general meetings, and started working on identifying software development environment goals, requirements and planning within a smaller LPC working group (weekly meetings). Presented and discussed software distrbution tools and issues, the procedure of software installation, CVS requrements, AFS use and other related topics.

*** CMS software environment at FNAL, user support

Investigated and found a solution for the problems with access to CVS kserver at CERN, that we experienced for last several years, after FNAL moved to Kerberos5. Used afs kdc configuration hint from Nick Sinanis, and Bill Tanenbaum's help as a tester. This can now be incorporated into general users environment at FNAL.

Helped to create new modules in USCMS CVS repository, and set permissions.

*** DPE release management

We discussed the inclusion of new developments into the DPE releases, packaging new tools (in particular clarens, and clarens based MOPDB), as well as integration and tests against new VDT releases (current latest is VDT 1.1.14). There was no need for new DPE release this month.

2 Status of Deliverables

Software installation are available at FNAL locally.
    DAR distributions for production are provided.
    Work for the next DPE release is in progress.

3 Plans For Next Month

Further DAR and refdbdar developments: meta-data, request specifications handling, etc.
    Find a replacement for SRB to distribute DARballs. Set up system for publishing darball information on the Web.
    Work with a summer student on improvements of automated system for displaying software releases information.
    Work in LPC development environment working group. Continue work in software installations and in support areas.

4 Longer Term Plans

Same as for the next month.
    Revise DAR documentation, add description of new DAR features, related tools/interfaces, practices and procedures.

5 Resources Needed

I need CPU resources and disk space to create and store the darballs.
    Preferred solution to create darballs is to set up a machine at CERN, with access to all CMS software releases via afs, and enough local scratch space (non-afs) to create and test distributions. Currently I use nodes dedicated to the ORCA or OSCAR developers. The ready darballs are currently stored

and distributed via SRB. We need a replacement as the SRB retires. The simplest solution would be to distribute darballs through a web, as it was done before we started using SRB. It would be convenient (although not necessary) to have a web server at CERN. The storage disk space estimate is 0.5 TB for darballs produced in several years.

6   Links To Supporting Documentation

- http://www.uscms.org/scpages/cmssoftware/

- http://cmsdoc.cern.ch/cms/production/www/html/general/Production.html

- http://www.uscms.org/scpages/subsystems/gridinfo.html

- http://home.fnal.gov/ natasha/cmssoft_procedures.html